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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/603,459	06/22/2000	Masahiro Watanabe	16869P-010300US	9583
20350	7590	02/28/2004	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			VANORE, DAVID A	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 02/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/603,459

**Applicant(s)**

WATANABE ET AL.

**Examiner**

David A Vanore

**Art Unit**

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 8, 10-15, 17, 18, 20-22, 26-33 and 36 is/are rejected.
- 7) ☒ Claim(s) 4, 7, 9, 16, 19, 23-25, 34 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-3,5,8,10-15,17-18,20-22, and 26-33 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5,8, 10-15, 17-18, 20-22, 26-33, and 36 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Archie et al.

Archie et al. teaches a method for correcting focus and astigmatism in a charged particle apparatus comprising a stage for holding a sample (Fig. 9), a charged particle optical system (904, 906, 907), a scanning unit (906), a focal point control system coupled to a means for setting a focus or increment of focal adjustment (106), an astigmatism adjustment and correction means for adjusting and correcting a degree of astigmatism (122, 126), a particle image detection system for detecting secondary particles generated by impingement of a charged particle beam on a sample (detectors BSE and PM in Fig. 9 for detection of backscattered and secondary electrons) such that a plurality of two dimensional images are generated for each focal setting (110 and Col.

Art Unit: 2881

4 lines 59-68), a control means and an image processor for computing and generating corrections for a focal offset, measuring image dimension and sharpness, and computing astigmatism (912) where focal correction and astigmatism correction instructions are fed back into the optical column based on a calculated correction quantity (Fig. 11 and Fig. 12), where the cross section of the beam is circular (Fig. 8) and the correction is calculated using at least three directional sharpness magnitudes obtained from the two dimensional images (Step 118 and Col. 2) as recited in claims 1-3, 8, 10, 11-15, 20, 26-31, and 36.

Regarding claim 17 which recites "wherein said particle image detection means has a configuration wherein a particle image having a plurality of different focal point positions is detected by controlling said focal point control means", the limitation of this claim can be distilled to mean that a particle image is detected by controlling the focal point control means. This limitation is taught by Archie et al. in Fig. 11 and Fig. 12. Archie et al. teaches that the initial focus condition is set, backscattered electrons are detected, and the focus condition is altered in response to the analyzed signal. The backscattered electron signal is what the image processing means (912) uses to synthesize a sample image.

Regarding claim 18, which recites that a particle image is detected from a plurality of different areas on the sample, Archie et al. teaches that the beam is scanned

Art Unit: 2881

across the sample by scanning means (906) and that the backscattered electrons are detected subsequent to this scanning procedure. This anticipates claim 18.

Regarding claims 21, 22, 32, and 33, Archie et al. teaches finding maximum values for beam directional sharpness magnitudes (Col. 5 Lines 1-15), and applies a Gaussian function (Col. 7) to determine the peak of these functions where the peaks are treated as in focus positions. Further, since Archie et al. shows that a plurality of peaks exist, Archie et al. goes on to teach taking an average of these positions to determine an in focus position (Col. 7-8).

***Allowable Subject Matter***

Claims 4, 6, 7, 9, 16, 19, 23, objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claims 4, 6, 7, 9, 16, 19, 23-25, and 34-35 are objected to for the same reasons set forth in the previous Office action. The claims stand objected to for the same reasons set forth previously because none of the objected to claims have been rewritten into independent form or their subject matter incorporated into any of the independent claims.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Vanore whose telephone number is (571) 272-2483. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2881

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dav



JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800